

National Seminar on Vocationalization of Education
(1985)

Issue Paper

Venue: NCERT, New Delhi
Dates: November 6-8, 1985

DEPARTMENT OF VOCATIONALIZATION OF EDUCATION
National Council of Educational Research and Training
Sri Aurobindo Marg, New Delhi-110016.

I. INTRODUCTION

The Ministry of Education, Government of India has published a document, "Challenge of Education - A Policy Perspective" with the aim of initiating a nationwide debate on all major issues in the domain of education. Such a debate would ultimately lead to the development of a new national policy on education. A series of thematic national seminars are being organised at the instance of the Ministry of Human Resources Development (earlier Ministry of Education) for more intensive deliberations on various issues and problems. In this series the National Seminar on Vocationalization of Education being organised by the Department of Vocationalization of Education, NCERT aims at :-

- Enunciation of policy statements
- Formulation of implementation strategy, and
- Detailing out the financial resources required.

II. CONCEPTUAL FRAMEWORK FOR VOCATIONAL EDUCATION

Vocational Education has been defined differently by various national and international agencies. The NCERT document, "Higher Secondary Education and its Vocationalization (1976)" accepted the Unesco's definition of 1974 which characterised vocational and technical education as a "Comprehensive term embracing those aspects

of the educational process involving, in addition to general education, the study of technologies and related sciences and the acquisition of practical skills, attitudes understanding and knowledge relating to occupations in the various sectors of economic and social life."

Nearly a decade later the Report of the National Working Group on Vocationalization of Education, Ministry of Education (1985) which undertook extensive review of vocational education in the country and provided guidelines for development of the programme in the present context stated that "Traditionally 'vocational education' has been understood as education designed to prepare skilled personnel at lower levels of qualification for one or more groups of occupations, trades or jobs. Vocational education has been usually provided at upper secondary level and includes :

- (i) general education
- (ii) practical training for the development of skills required for the occupation; and
- (iii) related theory."

While the above definition lays stress on upper secondary education for the development of skills, the working group used the term 'vocational education' in a much broader sense to cover such education from post-primary stage to

tertiary stage of education both through formal and non-formal programmes.

On the spectrum of conceptual framework another term "Vocationalized Education" has found place in some publications on this subject. While a precise definition is not readily available it often implies the introduction of varying amount of vocational component in the prevailing system of general education not necessarily leading to the development of employable skills. The two approaches of "vocational education" and "vocationalized education" have received considerable attention in educational deliberations without the emergence of any unanimity.

Under the wider scope of vocational education the need for arriving at a conceptual clarity cannot be overemphasised. Conceptual alternatives are presented at appropriate places in the context of middle, secondary and higher secondary stages of education in subsequent sections.

III. OBJECTIVES OF VOCATIONAL EDUCATION

The main objectives of vocational education over the years have been visualised as under :

- To fulfil the national goals of development and the removal of unemployment and destitution.
- To impart education relevant to productivity, economic development, and individual prosperity.

- To meet the need for skilled and middle-level manpower for the growing sectors of economy, both organized and unorganized.
- To divert sizeable segment of population to varied vocational courses.
- To prevent the mad rush to general education.
- To prepare students for self-reliance and gainful employment.

IV. EXPECTED OUTCOME FROM THE SEMINAR

This Issue Paper aims to help in organising a meaningful discussion leading to concrete suggestions on various important aspects of vocational education. An attempt has been made to raise the issues and provide alternative suggestions with a view to have intensive deliberations on important aspects.

It is hoped that the outcome of the Seminar will help in formulating a policy of vocationalization of education consisting of policy resolutions and implementation strategies along with an estimate of financial resources required.

V. ISSUES FOR DISCUSSION

1. Vocational Education for the Middle and Lower Secondary stages

1.1 Formal

1.1.1 Concept

The conceptual framework for vocational education has been provided in preceding pages. It deserves further clarity in relation to the middle and lower secondary stages of education.

In the existing system of general education from classes I to X, VE does not find a place but SUPW forms an integral component which aims to provide the students, at all levels of school education, 'purposive, meaningful, manual work resulting in goods or services which are useful to the community'. The Working Group (1985) has recommended the framework of SUPW for adoption throughout the country with pre-vocational orientation at middle and secondary levels. In this context it need be resolved whether SUPW programmes should be strengthened and given sufficient weightage to take care of VE objectives through its pre-vocational orientation or whether SUPW should be replaced by VE, the latter becoming an integral part of general education.

In this respect still another alternative could be conceived as to whether VE should be an independent stream as at the +2 stage.

The above considerations should be discussed separately for the middle and lower secondary stages of education.

The outcome of VE at middle and lower secondary stages may further be resolved on the basis of the given alternatives as under :

- Experience in one occupational area and acquisition of marketable skills (vocational).
- Acquisition of basic skills in a broad vocational area and the study of various aspects of a selected production process (pre-vocational).
- Variety of experiences in areas related to basic needs and providing exploratory experiences for personal use (Life-skills).

1.1.2 Desirability

Over 85% of the students drop out at different levels of school education upto grade X and join the world of work. So it is often opined that the students, while in school, should get some knowledge and skills so that if they drop out and enter the world of work they are able to engage themselves in certain occupational fields suitable to their age and intellect.

The present day manpower needs of the unorganised sector of our economy cannot be met through the manpower supplied by the systems of traditional/family based skill

training only. It demands personnel with diverse vocational skills. According to the Working Group (1985) "this sector of education has received inadequate attention in comparison to academic programmes in schools and colleges and manpower development for organised sector."

In this context it should be resolved whether the middle stage child (age group of 11 to 14) is mature enough to participate in well designed production and service oriented projects of considerable duration for pre-vocational and vocational preparation or should the lower secondary stage (age group 15 to 16) be visualised as the earliest stage for pre-vocational orientation. Another question that has to be answered is: whether the unorganised sector can absorb school leavers who possess specific skills at this tender age. If diversification or streaming at the middle or lower secondary stages are not favoured, it would only imply that the +2 stage may be earliest stage for this purpose.

1.1.3 Curricular considerations

Structured curricula, though necessary for all types of education, are very essential for vocational education when manipulative operations require definite sequential arrangement.

While preparing curricula to prepare manpower for a massive chunk of population as a part of the process of national manpower planning, special care need be taken to

identify jobs relevant to local needs; analyse the job market, develop competency based curricula; prepare suitable instructional materials for training of teachers, classroom instruction and skill-training; review, evaluate and revise the same periodically. The whole cycle may need repetitions when we take cognizance of the fact that job situations will not remain static and the requirements may change from time to time. In this background what strategy should be followed to develop curricula and prepare instructional materials ?

One or more of the following alternatives may be suggested :

- Magnitude of the programme and nature of courses which should be relevant to local needs necessitate institutional arrangement at local level, taking block as a unit as a feasible proposition.
- Though some sort of decentralisation is needed for identification of courses for a specific area, the curriculum development should be the responsibility of state level institution.

Some thought on the design of curriculum may also be called for to indicate whether it should be predominantly theoretical or predominantly practice oriented. A curricular mix for this purpose may also be indicated.

1.1.4 Feasibility

Any new educational programme, for its effective implementation, must be acceptable to the school system as

well as to the public at large. Even vocationalization of education at the +2 stage has not taken roots in all the States and U.Ts of the country even after more than a decade of continuous effort. The introduction of VE in the middle/lower secondary stage would require gearing up the school system and education of the general public to create a favourable climate. In this context the questions are :

Whether the parents at large will accept VE at these stages ? If acceptance by public is felt plausible what measures should be undertaken to educate the public in favour of implementation of VE at these stages ? The school system in general is rather poorly equipped for such a role, What steps should be taken to gear-up the school system ? The availability of suitable teachers has been felt as a chronic problem, How the problem of providing suitable teachers for imparting such an educational programme should be solved ?

1.2 Non-formal

Since our constitutional directive provides for universal education upto class VIII the non-formal education has been accepted as a strategy to supplement the formal education for universalization of elementary education. It is expected to be functional in nature and relevant to the learner in relation to his life and environment. However, for those students who may prefer to have an alternative in the form of vocational education and

training at the middle/secondary stage of education and for those who would prefer vocational education, non-formal programmes may be formulated and offered in order to enable them to join the world of work as semi-skilled workers. Such programmes should also be conceived for a large number of young people in the corresponding age group who may already be in the labour force and may wish to upgrade their skill-base and competence.

It has been recommended by the Working Group (1985) that non-formal vocational training to these groups should be conducted by various agencies of education and training under different ministries and departments of the central and state governments by establishing extension centres preferably at the block level. Its Report may be referred to for details. However, the Seminar may address itself to the following questions:

What strategy should be adopted to identify the types of courses for which training may be imparted ? Should the various implementing agencies identify the types of courses in their own areas or a proper coordinating and monitoring agency at the block level be assigned this task ? It may further be resolved as to what type of agency for co-ordination, monitoring and evaluation be suggested for this purpose.

What should be the duration of the courses ? Should it be flexible, varying from course to course or would it

be advisable to adopt an uniform pattern for each level. (V+ to VIII- and VIII+ to X-) for a possible parity with that of the formal system of education ?

What should be the nature of certification ? Should it merely be a document given at the level of the implementing extension centre indicating the type and duration of training undergone or should it give a seal of recognition which can help the trainee to undertake further training in a formal system to promote his status ?

It may also be argued that there is no need of any certification.

What type of employment the non-formal training will lead to ? Would it be confined to unorganised sector for self employment only or wage employment only or for both - self and wage employment.

To what extent can this type of training lead to employment in the organized sector ? Another important consideration may relate to the role of formal education system in providing general education for the trainees in the non-formal courses.

2. Vocational Education at the Higher Secondary Stage N.C.E.R.T.

2.1 Concept

In the present day context of rapid industrialization and economic development it is felt that the general education system is not adequate to meet the growing demands

of the diversifying economy. It is generally felt that the varied needs of the growing economy can be effectively met through diversified vocational courses at the higher secondary stage. The conceptual framework calls for clarity in terms of the following :

Should vocational education be seen merely in terms of creating positive attitude towards work and general increase in skill-base among students ? Or should it be seen as a strategy for giving a full package of competencies required for the wage and self-employment to meet the manpower needs in various sectors ? If the former is accepted, how would the vocational programme be distinguishable conceptually from the SUPW with pro-vocational bias in the context of general education ?

In order to resolve the above issues it is necessary to reach a definite conclusion in regard to the following three alternatives :

- There should be clear cut streaming at the higher secondary stage as recommended by the Kothari Commission.
- There should be provision for mixing of academic and vocational electives in varying proportions as recommended by the Adisheshiah Committee;
- General Education along with vocational preparation should be compulsory for all students so as to

avoid any discrimination in terms of future educational and professional opportunities.

2.2 Public acceptance

Public acceptance of any programme is the acid test for its effectiveness and wider implementation. As at present the acceptability of the programme of vocationalization of education by the society is much less than what is desirable. It is necessary to suggest ways and means to enhance public acceptance of the vocationalization programme.

It may be achieved through wide publicity given through the mass media. The acceptance may be enhanced by providing more opportunities for occupational and educational mobility. Besides, suitable incentives such as stipends, scholarships, residential facilities, etc. may be given to students joining vocational courses. Proper guidance and placement services may be organised for the benefit of students of vocational courses.

2.3 Location of vocational courses

At present vocational courses are being offered in general schools or upgraded high schools/Jr. Colleges etc. Majority of those institutions have inadequate facilities even for general education courses. In such institutions vocational options are limited due to lack of infrastructural facilities.

The future policy in this regard may be evolved on the basis of the following alternatives :

Should we insist on the vocational courses being continued to be offered in the institutions of general education owing to the constraints of financial resources and psychological considerations (vocational institutions being inferior in status) or should the vocational courses be taught in separate institutions established specifically for this purpose ?

An alternative to these two extremes could be the creation of a certain well equipped vocational schools/ workshops/training centres which would meet the needs of a cluster of general-education institutions offering vocational options. Such central vocational institutions should have adequately trained faculty and proper infrastructural facilities for training in a number of related or unrelated trades.

2.4. Vocational education for rural, tribal and urban poor

The present academic courses have proved quite unsuitable for the rural, tribal and urban poor. This fact is reflected in their high drop out rate and poor enrolment. Of those who somehow manage upto the higher secondary stage the type of education they receive does not equip them with proper employable skills. Under these circumstances what type of educational experience would be most beneficial to

a majority of them ? Specially designed vocational courses based on their local needs may be suggested. Yet some people may be inclined to think that no distinction should be made in terms of curricula but special incentives and programmes like job guarantee, work-study, cooperative education, residential facilities etc. may be provided to them. The benefit from vocational education programme in terms of an early entry into the job market at a comparatively higher wage levels and consequently a better social status may constitute another dimension for discussion.

2.5 Significance of SUPW as a base for vocationalization

It is universally agreed that Socially Useful Productive Work or Work Education must form an integral component of the general education system. It helps in developing proper attitudes, proper work habits and desirable values in the students. SUPW also intends to provide general preparation and pre-disposition for vocational courses at the +2 stage.

In this respect the strengthening of SUPW/WE at the lower secondary stage and its pre-vocational orientation assume a great significance for the success of vocationalization of higher secondary education. The Seminar may like to discuss this in-depth with particular reference to its implementation and acceptability.

2.6 On-the-job training to vocational students

On-the-job training is an essential component of effective vocational education and training. Unfortunately it happens to be one of the weakest links in the implementation of vocational education at present. The ways and means to be adopted to secure the needed cooperation from the business, industry and other work-enterprises may be formulated by the Seminar. It may be suggested that on-the-job training should be made obligatory for all economic organizations of a minimum size. It may also be considered whether the government should provide incentives to the business and industrial organizations to facilitate on-the-job training to students. In this event the nature of incentives may have to be suggested. As an alternative it may be considered that industrial and business organizations adopt educational institutions for providing on-the-job training. Some may yet agree that effective on-the-job training is not possible in the present context and practical training in the school itself is the only solution for which facilities must be created.

2.7 Modification of recruitment rules

In order to accommodate vocational students who would eventually be job seekers, it is essential to modify some of the existing recruitment rules. However, even in those states where action has been taken to modify the rules, experience

has shown that recruitment agencies have been slow in responding.

It may be kept in view that there are a large number of agencies-governmental, public and private sectors all over the country which will have to take action in this regard. The Seminar may like to suggest ways and means for expeditious action. In case of a number of trades the question of equivalence and recognition may have to be resolved where an overlap is likely to exist between the higher secondary vocational courses and vocational courses offered by other agencies.

2.8 Terminality

One of the aims of higher secondary vocational education is to divert large number of students to the world of work by attracting them to need based and region specific vocational courses. Therefore, it has been recommended that these courses should be generally terminal in nature. However, there should be provision for vertical mobility through appropriately designed bridge courses.

But the concept of terminality has not been understood properly and the pre-requisites for its success have not been satisfied. According to the predominantly prevailing view point terminality means equipping the person with certain skills and competencies so as to enable him to exist from the educational system at

a particular point. In substantiation of this it is often argued that higher secondary stage is a terminal stage as a terminal stage for majority of students who join it and this proportion will increase steadily in future. According to another view-point, in respect of vocational courses, the concept of terminality implies an inferior stream of studies, and hence discriminatory.

It may, therefore, be resolved whether in this age of fast changing technology vocational education should be conceived of as 'terminal' in character as being a dead end or should it have suitable links with further/higher general and professional education. On the contrary, if vocational education is not 'terminal' in character it will swell the university enrolments causing erosion in its equality and resulting into the problem of massive educated unemployment. Yet another alternative could be that it should be terminal in the sense of enabling entry into the world of work and at the same time keeping open the possibilities of vertical mobility through part-time/sandwich/evening courses. A segment of thinkers hold the firm view point that because of the uncertainties in employment market scope should be provided for entry into higher courses of general education for those who are unable to get employment. They suggest that for this purpose the vocational courses should be 'bi-focal' by

having larger number of academic electives in a vocational option.

For this type of curriculum schools should not provide separate streams since such streaming often go differentiation between general and vocational education which are traditionally considered as inferior and inferior respectively. Students should be able to choose from a comprehensive set of academic and vocational courses. For the purposes of future policy on vocational education the Standing Committee to resolve these issues for clarifying criteria, administration

2.9 Course structure

The curriculum for vocational courses is intimately related to conceptual dimensions presented in the preceding statement. The design of a vocational course would naturally emerge from the conceptual framework that is conceptual, reflecting the wider conceptual framework others, the vocational courses differ considerably with regard to their vocational educational components.

There are three basic units in the course structure namely for $\mu_1(\alpha)$, related subjects and foundation courses, vocational theory and practice. Vocational courses being predominantly practical in nature it is considered necessary to provide greater stress on vocational theory and practice.

The prevailing patterns followed by states show the following range :

- Language(s)	16 to 25 %
- Related Subjects	17 to 50 %
- General Foundation Course	5 to 15 %
-- Vocational Theory and Practice	32.3 to 77 %

Various recommendations on general curriculum design for vocational studies are available. The Seminar may like to examine these and should favour the pattern :

- as suggested by NCERT document, "Higher Secondary Education and its Vocationalization" :

- Language(s)	25%
- Related subjects Sciences Social Sciences	25%
- Vocational Theory and Practice	50%

- or as suggested by Review Committee (1978) :

- Language(s)	15%
- General Foundation Course	15%
- Elective Subjects	70%

- or as suggested by Working Group on Vocationalization (1978)

- Language	15%
- Basic Subjects Relevant to Vocation	20%
- Vocational Studies and Practice	65%

- or as suggested by National Seminar on

Vocationalization of Education (1981) :

- Language(s) 20%

Integrated Vocational	
Courses (Theory, Practice	
Related Subjects, General	
Foundation)	80%

- or a new formulation should be evolved.

If the last alternative is favoured the Seminar may like to suggest the design.

It may further be resolved whether a particular course should have uniformity throughout the country or a range of variability be allowed from state to state.

If so, what should be its basis and justification vis-a-vis a set of competencies which may be desired to be developed in respect of a given vocational course?

Besides, if a range of variability is allowed how should the national mobility or national accreditation be ensured?

2.10 Duration of vocational courses

For the reasons of co-terminality with the academic courses at the higher secondary stage the vocational stream-courses were of 2 years duration as recognized invariably by all the boards in the country. Kothari Commission had proposed post secondary stage courses of widely variable durations.

It may, therefore, be resolved whether the courses may essentially be of 2- years duration as at present or their duration may vary. Should only those courses be taught at the +2 stage which can fit into this stage ? How should the variable duration be viewed in the context of university level courses ? How should the curricular mix vary to conform to the requirements of each vocational course ?

These and many related issues may come up for discussion which may be resolved by the Seminar.

2.11 Teachers: availability and training,

Instruction in vocational courses, for the maintenance of quality and standards, necessitates the supply of teachers with proper expertise in both theory and practice. Often the expertise of a single person may not be adequate since the vocational courses demand a fairly wide base of competences in theory, practice, teaching practice and communication skills.

In the background of these requirements what should be the background and qualifications of vocational teachers if desired to be appointed on full time basis ? Should they be degree holders (Bachelor/Master) or should they be experienced skilled personnel with or without degree. If degree holders are not readily available should the diploma holders with a specified length of practical

experience be appointed ?

Although a better alternative would be to employ teachers specially trained through proper pre-service programmes designed keeping in view the needs of vocational courses. In this case where and how these programmes be located and how should their out-turn be determined ?

If high level professional expertise is to be attracted what should be the service conditions, salary, allowances, opportunities for professional growth etc. ?

Obviously a massive vocationalization programme would demand a large teacher contingent with wide variety of expertise.

What arrangements should be made for training of vocational teachers in large numbers ?

Should vocational teacher training be provided in the present general teacher training institutions or such training should be imparted in separate teacher training institutions having adequate facilities of man, money, material and other infrastructural facilities ?

As an alternative to the above the vocational teacher training may be entrusted to university departments or specialized organizations concerned with the field.

Some people hold the view that there should be no need for a pre-service training programme in vocational areas since the teachers who should have expertise in

various vocational areas may be trained in pedagogy through regular teacher training institutions.

In order to formulate policies for teacher training the above issues deserve resolution.

To what extent the instruction can be managed by arranging the services of experts on part time basis ?

Management of vocational instruction with the help of part-time teachers goes with the very philosophy of vocationalization of education.

The following alternatives may be considered :

- this has to be the only mode to manage vocational instruction.
- A blend of part-time and full-time teachers may be employed.

If part time teachers are employed they may have to be given in-service training in subject matter/practical skills/teaching-learning methodology etc. If so what should be the agencies concerned ?

- Existing research/training institutions under various Departments/Ministries.
- or, NCERT/RCEs/TTTs/CTIs etc.
- or, new institutions to be created for this purpose such as State Institute of Vocational Education.

Another question which merits consideration is the institutionalization of the system of obtaining the services

of part-time teachers. This should be achieved either through negotiations and persuasion or through government orders/legislation to draw personnel from export institutions/industries.

2.12 Evaluation

Evaluation in vocational courses is a specialized job. In addition to theoretical knowledge it is essential to evaluate the performance and personality characteristics. Skill development is not instant, rather it happens over a period of time.

What evaluation strategy should be adopted for vocational courses ? Whether it should be :

- continuous internal evaluation, or
- external examination with sessional marks, or
- internal evaluation with a provision for review by an external examiner.

2.13 Financing for self employment

Self employment constitutes a major justification for vocationalization of education. However, VE has not resulted into the extent of expected or desired self employment due to a number of factors. Not the least important of these is the lack of finances and guidance for entrepreneurship. Another contributory factor is the lack of co-ordination between vocational education agencies on the one hand and employment agencies on the other.

The Seminar may consider the arrangements to be made for the provision of necessary finances, raw materials, equipment, etc. and other facilities needed for self-employment ventures for vocational students. A few suggestions are offered for discussion :

- Nationalized Banks should recognize the certificates obtained by the vocational students for the purpose of extending finance on a normal interest rate for small ventures,
- Department of small-scale industries should prepare small projects and their feasibility reports, in tune with the vocational courses offered by the state, for the benefit of the vocational students.
- Subsidies available under various programmes like IRDP and Social Welfare Department should also be made available to vocationally educated students.
- State Council of Vocational Education should be entrusted with the work of cooperation between departments concerned with VE and the employing departments on one hand and financing institutions and vocational students on the other.

2.17 Instructional materials

There is a serious dearth of instructional materials for VE in the country. In general, states are using reference

books used in colleges for imparting instructions.

However, some states like Tamil Nadu and West Bengal have developed some materials for the teachers as well as students. Recently NCERT has also initiated action in this regard. However, the present mechanism of developing instructional materials is not adequate.

The strategies for developing instructional materials including audio-visual materials ^{for} vocational education may have to be formulated. A suggestion could be that instructional materials should be developed at a central place, preferably by the NCERT, either directly, or in collaboration with other expert institutions. Alternatively, NCERT should only develop model instructional materials in each major area and for large scale publication on a variety of themes either the private publishers should be encouraged, or the state governments should establish their own agencies, or work out their own mechanism for this purpose.

3. Vocational Education at the higher (tertiary) stage

It is generally conceded that education should have no blind end. Even courses that are labeled terminal, mean that they meet certain specified objectives, ensure the development in the individuals of certain competences and abilities. While they are not mainly meant to be preparatory for further education, they do not also mean closure of avenues for educational opportunities.

The current prejudice against vocationalization will not disappear unless a reasonable chance of worthwhile employment or an advantage in moving upwards into a professional or general programme of education is provided to students of vocational courses at the secondary level.

In this connection following suggestions are made :

3.1 Diploma programmes in vocational subjects for higher secondary students

- a) The student of vocational stream should be able to obtain a Diploma for their professional growth in chosen area of specialization.
- b) The existing polytechnics and similar other institutions may allow the student of +2 vocational stream to enter the second year in corresponding courses of study.

Which of the above alternatives will be more useful ?

Should the courses be of higher level and of higher proficiency ?

Should these be more with a view to meet the aspirations to acquire a degree for better status or to enhance employability ?

In respect of the suggestion in (b) should the concerned courses in polytechnics be redesigned to accommodate students of the higher secondary vocational stream ?

3.2 Advanced diploma programme in vocational subjects

The students with 10+ qualification in general education followed by a formal course of VE and training in ITIs may upgrade their competency for their professional growth through a tertiary level diploma course.

If so, what should be the agencies to be identified for this purpose, what types of curricula should be devised ? How should the infrastructural facilities be provided ?

3.3 Degree in vocational subjects

The reform at the +2 stage in the form of vocationalization should necessarily have its impact on the +3 stage of education under 10+2+3 structure. When a substantial number of students opt for vocational stream, the degree courses in universities cannot continue to be the extension of academic stream only.

The following suggestions may be considered in this regard :

- a) The UGC has offered a conceptual model which allows for one vocational elective out of the three in the first degree courses. These should be open to students of higher secondary vocational courses.
- b) A few of the universities have also introduced in a very limited way, degree courses with emphasis on job orientation like Corporate Secretaryship, Tourism, Book Industry, Sericulture, Fisheries, etc.

Similar type of courses should be instituted in other vocational areas for proper opportunities of higher education to vocational students.

3.4 General degree programme for vocational students

There are many degree courses in social sciences, humanities, home-science, and commerce which offer ready entry to higher secondary products of the vocational stream. The propriety of such provision for vertical mobility may be discussed.

3.5 Entry into institutions offering professional degree level courses such as medicine, engineering, agriculture etc.

There is often a great demand from the students of vocational streams for admission into professional courses at the degree level and sometimes reservation of seats is also demanded.

In this regard it may be resolved whether the products of vocational streams are academically equipped for such a facility.

Can the professional institutions accept the vocational stream products ?

Should such a mobility be granted on the basis of public demand or legal verdict or on the basis of academic considerations ?

It may alternatively be suggested that such a mobility be given through bridge courses specially designed for this purpose and not directly. But then who should offer

such bridge courses and how should recognition be accorded ? Should these be offered by the higher secondary boards or by the professional institution/system which will accept the students ?

4. Projection of manpower needs

For the planning of vocational education with the goal of enhancing employability of students , projection of future manpower profile is one of the basic pre-requisites.

Ironically this is also presently, one of the weakest link in the chain. Some estimates for man power needs may be available through district level vocational surveys with particular reference to the unorganised sectors of employment. Estimates in respect of certain other vocations may have to be prepared at the state level or central level. All these estimates along with those available from other sources such as lead bank reports, Labour Ministry's estimates etc. will have to be used for the purposes of planning to meet the existing and emerging manpower needs.

A total of 131 districts have been surveyed since 1978 under the central sponsorship of the vocationalization programme during the Fifth Five Year Plan. Most of these studies have now been rendered out dated. Necessary guidelines in the form of a Handbook for Vocational Survey Workers (NCERT) exists along with a few model survey reports from amongst already conducted by the states.

A fresh look has to be taken to evolve certain policy directions. Should manpower projection be an integral feature of the vocational programme in the country ? If so what mechanisms should be evolved for a comprehensive manpower projection ? A futuristic planning calls for alternative profiles keeping in view the growth rate of the economy, technological changes, societal changes and others related features in near and distant future. It may be discussed as to how this task be organised and coordinated so that all sectors of economy, all areas of the country and all **strata** of the society are kept in view.

An alternative view point suggests that the manpower forecasting is a difficult task and is often characterized by imprecision in spite of the refined techniques available for this purpose even in many advanced countries. It, therefore, maintains that the training of skilled personnel should follow the trends of the job market and ^{the} supply should be adjusted according to the likely demand in a limited time frame. For such a purpose even crude projections assessed rather superficially may suffice.

As a safer course some planners tend to suggest and follow a "growth model" by starting a few vocational courses in a limited number of selected institutions and then allow the system to expand on the basis of demands placed by the community.

The above ~~strategies~~ may be discussed and a concensus may be attempted during the deliberations in the Seminar.

5. Management system, implementation strategies and financial resources

The National Working Group on Vocationalization of Education (1985) has given serious thought to the management system that must be created, implementation strategies and financial resources. Detailed descriptions, guidelines and projections are available in its report. The Seminar may like to use the concerned chapters of the Report as reference materials and review, modify or adapt the recommendations and details either in the plenary or through specially constituted group(s) for this purpose. It is felt that there may not be any need to take a fresh look and the time available may be more fruitfully utilized for resolving more fundamental issues brought out in the preceding sections of this paper.